

~~SECRET~~  
**CONFIDENTIAL**

13 August 1954  
151B

**MEMORANDUM FOR: THE RECORD**

**SUBJECT:** Project Monitor at [redacted]  
[redacted] P-101B Communication System Infra Red

25X1

25X1

**1. Time and Place of Meeting:** [redacted]

25X1

5 and 6 August 1954.

25X1

**2. Attendance:** [redacted]

25X1

Brief conversations were had with [redacted]

25X1

25X1

**3. Discussion:**

**a. Detector**

[redacted] has chosen for the detector to be used the Kodak Ektron PbS cell. This cell has peak sensitivity at 2.5u (microns) and cuts off at 3.5u (microns) at room temperature. Further information may be obtained from [redacted] Eastman Kodak, Rochester 4, N. Y. One of the advantages of this cell is its ability to operate under high background illumination.

25X1

25X1

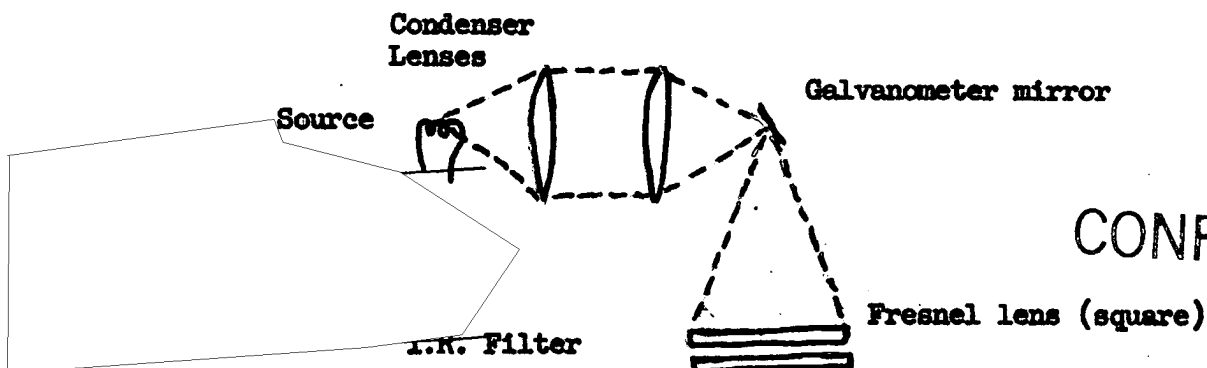
**b. Filters**

[redacted] has determined to use the Zeiss Jena (West German) UG-8 glass filter. The characteristic curve of this filter was not available. Information and filter sample can be obtained from the Zeiss New York representative, Fish-Schurman Company.

25X1

**c. Source and Modulation Scheme**

An optically modulated tungsten source is to be used. The schematic of the optical system appears below. The galvanometer used is a Midwestern Geophysical unit of very rugged design.



25X1

**CONFIDENTIAL**

~~SECRET~~**CONFIDENTIAL** Page 2

For maximum efficiency the Fresnel lens and condenser lenses will be of the same f number. The galvanometer is designed to have a maximum angular amplitude of  $16^\circ$  which corresponds to 100% modulation. It is hoped that the high frequency response of the galvanometer will be around 3000 cps. It will be noted that a signal corresponding to 100% modulation ( $16^\circ$  displacement of the mirror) gives zero light output, while no signal on the galvanometer ( $0^\circ$  displacement and 0% modulation) gives full light output. This particular system is of advantage because it uses all of the available light, not 50% of the light as in the AN/PAC-1 system.

## d. Work Schedule

In order to meet the 30 April '55 deadline [ ] has set the following schedule.

1 Sept. '54	First complete breadboard units
1 Oct. '54	Design of packaged system complete
31 Dec. '54	Delivery of 4 units
30 April '55	Delivery of 20 improved units

25X1

## e. Problem of System Alignment

[ ] was informed that an attempt would be made by APD to learn more about methods of alignment. It was hoped that [ ] might be of assistance.

25X1

25X1

25X1

## f. Transistorized Circuitry

[ ] was told that APD might be able to have transistorized circuitry designed for the unit given proper specifications. [ ] stated that they were in favor of this but that circuitry using tubes would be built in case of APD failure. [ ] stated that they were not experienced in transistor circuitry.

25X1

25X1

25X1

25X1

## g. Change in Specifications

[ ] is presently going ahead with [ ] in an attempt to silence the motor-generator. [ ] guarantees no results, however, APD stated that in the light of this, a reduction in the continuous transmit time from 9 hours to 2 hours is acceptable with the idea of making battery power more feasible.

25X1

25X1

4. Actions:

a. APD will contact [ ] to investigate alignment means. (Done 23 August AST.)

25X1

b. APD will contact [ ] regarding transistorized circuitry.

25X1

**CONFIDENTIAL**~~SECRET~~

~~SECRET~~  
**CONFIDENTIAL** Page 3

c. [ ] will furnish APD

25X1

- (1) Specifications for amplifier circuits
- (2) Final report on study phase

d. [ ] will have breadboard system (2 units)  
complete by next meeting (9 and 10 September)

25X1

[ ]  
TSS/APD

25X1

**Distribution:**

Orig. - P-101B ✓

- 1 - [ ]
- 1 - [ ]
- 1 - Chrono

25X1

AST/bb

**CONFIDENTIAL**

~~SECRET~~